AMENDMENTS TO THE CLAIMS

The following Listing of the Claims replaces all previous submissions.

Listing of the Claims

1. (currently amended) An emitter, comprising:

a light source which emits a first spectrum of light; and

a hemispheric ~~shaped~~ conversion material region formed separately from said light source and including conversion particles distributed uniformly throughout, said conversion material region positioned in proximity to said light source such that at least some of said light source light passes through said conversion material region, said conversion material region shaped such that said light passing through travels through substantially similar thicknesses of said conversion material region, said conversion particles absorbing at least some of said light source light passing through said conversion material region and emitting a second spectrum of light,

wherein said first spectrum of light and said second spectrum of light are combined within said conversion material region, said emitter emitting a combination of said first and second spectrums at a substantially uniform color and intensity.

2. (original) The emitter of claim 1, wherein said light source emits said first spectrum of light along a plurality of light paths extending through said conversion material region, each light path extending through a substantially equal amount of conversion particles.

3. (canceled)

4. (canceled)

5. (original) The emitter of claim 1, wherein said conversion material region includes scattering particles which redirect at least some of said first and second spectrum of light.

6. (original) The emitter of claim 1, wherein said conversion material region comprises a glass lens.

7. (original) The emitter of claim 6, wherein said glass lens is formed separately from said light source and bonded proximate to said light source.

8. (original) The emitter of claim 1, wherein said conversion material region comprises a phosphor loaded cap.

9. (original) The emitter of claim 8, wherein said phosphor loaded cap is shaped to fit closely over one or more of the surfaces of said emitter such that said light source light passing through said phosphor cap passes through substantially the same amount of said conversion particles.

10. (original) The emitter of claim 8, wherein said phosphor loaded cap includes a perforation for receiving an electrical contact to said light source.

11. (original) The emitter of claim 10, wherein said perforation is at least partially filled with at least one of conversion particles and scattering particles.

12. (original) The emitter of claim 8, wherein said phosphor loaded cap is formed separately from said light source and bonded proximate to at least on of the surfaces of said light source.

13. (original) The emitter of claim 1, further comprising a submount, said light source mounted to said submount and said conversion material region mounted to said submount.

14. (original) The emitter of claim 1, wherein said conversion material region is hemispheric shaped and said light source is arranged to emit light toward the base of and through said conversion material region.

15. (original) The emitter of claim 1, wherein said light source comprises a light emitting diode.

16. (original) The emitter of claim 1, emitting a spectrum of light that is a combination of said first and second spectrums of light.

17. (original) The emitter of claim 1, wherein said conversion material region is positioned in relation to said light sources such that there is a space between the two.

18. (currently amended) An emitter, comprising:

a light source which emits a first spectrum of light, said light source comprising first and second electrical contacts on opposite surfaces of said light source; and

a conversion material region having an inside surface that is substantially the same shape as a plurality of outside surfaces of

said light source, said conversion material region comprising a phosphor loaded cap perforated to allow said first contact to be housed within said phosphor loaded cap, said conversion material region formed separately from said light source and positioned on said light source, said conversion material region arranged to absorb at least some of the light emitted by said light source and re-emit light at a second spectrum of light, said emitter emitting a combination of said first and second spectrums of light in a uniform third spectrum of light.

19. (previously presented) The emitter of claim 18, wherein said conversion material region is separable from said position on said light source.

20. (previously presented) The emitter of claim 18, further comprising a submount, wherein said light source is positioned on a first surface of said submount.

21. (original) The emitter of claim 18, wherein said submount is configured to reflect some of said first and second spectrums of light.

22. (canceled)

23. (previously presented) The emitter of claim 20, wherein said at least one of said submount surface reflects some of the first and second spectrums of light to said conversion material region.

24. (original) The emitter of claim 20, wherein said submount includes one of a cup-shaped submount and a flat submount.

25. (canceled)

26. (canceled)

27. (previously presented) The emitter of claim 18, wherein said conversion material region comprises a phosphor loaded cap having substantially the same thickness throughout.

28. (previously presented) The emitter of claim 27, wherein the inside surface of said phosphor loaded cap is shaped to fit the shape of the majority of the outside surface of said light source.

29. (previously presented) The emitter of claim 27, wherein said phosphor loaded cap is formed separately from said light source and bonded to said light source.

30. (original) The emitter of claim 18, wherein said conversion material region is positioned in relation to said light source such that there is a space between the two, said space chosen to obtain substantially uniform emission of said third spectrum of light.

31. (original) The emitter of claim 18, wherein said conversion material region is positioned in relation to said light source such that there is a space between the two, said space chosen to provide said third spectrum of light with at least one of a desired color and intensity.

32. (currently amended) A method of fabricating an emitter, comprising:

providing a light source;

providing a separately formed hemispheric conversion material region which includes conversion particles distributed uniformly throughout; and

bonding said conversion material region proximate to said light source, said conversion material region being positioned so that at least some of the light emitted from said light source at different angles flows through said conversion material region and through ~~the~~ substantially the same amount of conversion particles.

33. (original) The method of claim 32, further including a step of providing a submount, said light source being bonded to a first surface of said submount.

34. (currently amended) The method of claim 32, wherein said conversion particles are distributed throughout said conversion material region so that said emitter emits ~~at least one of the same color and intensity of~~ light having a substantially uniform color distribution and/or a substantially uniform intensity.

35. (previously presented) The method of claim 32, wherein the step of providing said hemispheric conversion material region includes a step of providing a lens which includes said conversion material region.

36. (original) The method of claim 33, wherein the step of bonding said conversion material region proximate to said light source includes a step of bonding said lens to one of said first surface and a second surface of said submount.

37. (previously presented) The method of claim 35, wherein the step of providing said lens includes a step of providing a lens

with an opening configured to allow said lens to at least partially surround said light source.

38. (original) The method of claim 33, wherein the step of providing said submount includes a step of providing one of a flat submount and a cup-shaped submount.

39. (original) The method of claim 33, wherein said submount includes a cup-shaped submount with a third side configured to reflect at least a portion of the light re-emitted from said conversion material region.

40. (previously presented) The method of claim 32, wherein the step of providing said conversion material region includes a step of providing a phosphor loaded cap having an inside surface that is shaped substantially the same as the outside surface of said light source.

41. (original) The method of claim 40, wherein the step of providing said phosphor loaded cap includes a step of providing a phosphor loaded cap which is shaped to at least partially surround said light source.

42. (original) The method of claim 40, wherein the step of providing said phosphor loaded cap includes step of providing a phosphor loaded cap with a perforation for engaging a contact.

43. (original) The method of claim 42, further including a step of filling said perforation with at least one of conversion particles and scattering particles.

44. (previously presented) An emitter, comprising:

a light source emitting a first spectrum of light; and

a substantially hemispherical lens element having a uniform distribution of wavelength conversion material dispersed throughout, said lens element molded separately from said light source and disposed proximate to said light source such that most of the light emitted from said source over the entire range of angles interacts with substantially equal amounts of said wavelength conversion material, wherein the light is transmitted from said lens element into the ambient;

wherein said emitter emits a second spectrum of light having substantially uniform color and intensity distributions over the entire range of viewing angles.

45. (previously presented) The emitter of claim 44, wherein said wavelength conversion material comprises phosphor conversion particles.

46. (previously presented) The emitter of claim 44, wherein said first spectrum comprises blue light and said second spectrum comprises blue and yellow light such that said second spectrum appears white to the human eye.

47. (previously presented) The emitter of claim 44, said lens element further comprising a perforation large enough to accommodate an electrical connection to said light source through said lens element.

48. (previously presented) The emitter of claim 47, wherein said perforation is at least partially filled with said wavelength conversion material.